

Ryan J. Gallagher

NETWORK SCIENCE PH.D. STUDENT MERGING TEXT AND NETWORKS FOR COMPUTATIONAL SOCIAL SCIENCE
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Education

Northeastern University

PH.D. NETWORK SCIENCE

Advisor: Dr. Brooke Foucault Welles

Boston, MA

Sept. 2017 – PRESENT

University of Vermont

M.S. APPLIED MATHEMATICS, 4.0/4.0

Thesis: “Disentangling Discourse: Networks, Entropy, and Social Movements”

Advisors: Prof. Christopher M. Danforth, Prof. Peter Sheridan Dodds

Graduate Certificate: Complex Systems

Burlington, VT

Aug. 2015 – May 2017

University of Connecticut

B.A. MATHEMATICS, *Summa Cum Laude*

Minor: Statistics

Storrs, CT

Aug. 2011 – May 2015

Experience

Research Assistant

NETWORK SCIENCE INSTITUTE, NORTHEASTERN UNIVERSITY

Boston, MA

Aug. 2017 – PRESENT

Research Assistant

VERMONT COMPLEX SYSTEMS CENTER, UNIVERSITY OF VERMONT

Burlington, VT

Aug. 2015 – Aug. 2017

Visiting Research Assistant

INFORMATION SCIENCES INSTITUTE, UNIVERSITY OF SOUTHERN CALIFORNIA

Los Angeles, CA

Jun. 2016/2017 – Aug. 2016/2017

Research Fellow

RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU), NORTH CAROLINA STATE UNIVERSITY

Raleigh, NC

May 2014 – Jul. 2014

Research Fellow

RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU), MICHIGAN STATE UNIVERSITY

East Lansing, MI

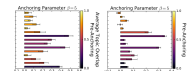
Jun. 2013 – Jul. 2013

Peer-Reviewed Publications

IN REVIEW

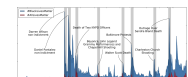
Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge

RYAN J. GALLAGHER, KYLE REING, DAVID KALE, GREG VER STEEG. ARXIV PREPRINT: 1611.10277, 2016. *In Review.*



Divergent Discourse of Protests and Counter-Protests: #BlackLivesMatter and #AllLivesMatter

RYAN J. GALLAGHER, ANDREW J. REAGAN, CHRISTOPHER M. DANFORTH, PETER SHERIDAN DODDS. ARXIV PREPRINT: 1606.06820, 2016. *In Review.*



Presentations

TALKS

The Topic Topology of Slacktivist Networks

INFORMATION, SELF-ORGANIZING DYNAMICS AND SYNCHRONIZATION ON NETWORKS SATELLITE SYMPOSIUM, NETSCI 2017

Indianapolis, IN

Jun. 2017

Guiding Topic Models via Anchored Correlation Explanation

MACHINE LEARNING AND DATA SCIENCE SEMINAR, INFORMATION SCIENCES INSTITUTE

Los Angeles, CA

Aug. 2016

An Introduction to Natural Language Processing

INTRODUCTION TO MATHEMATICAL MODELING INVITED SPEAKER, UNIVERSITY OF CONNECTICUT

Storrs, CT

Dec. 2015

Polygon Curvature Flow

AMS SESSION ON CONVEX AND DISCRETE GEOMETRY, JOINT MATH MEETING 2015

San Antonio, TX

Jan. 2015

Harmonic Functions and Random Walks on Spheres

MAA SESSION #18, MATHFEST 2013

Hartford, CT

Aug. 2013

POSTER SESSIONS

Anchored Correlation Explanation: Topic Modeling with Minimal Domain Knowledge

UVM STUDENT RESEARCH POSTER CONFERENCE, UNIVERSITY OF VERMONT

Burlington, VT

Apr. 2017

The Discourse and Dynamics of #BlackLivesMatter and #AllLivesMatter

UVM STUDENT RESEARCH POSTER CONFERENCE, UNIVERSITY OF VERMONT

Burlington, VT

Apr. 2016

Do Polygons Become Asymptotically Regular Under Flow by Curvature?

MAA UNDERGRADUATE POSTER SESSION, JOINT MATH MEETING 2015

San Antonio, TX

Jan. 2015

Random Walks on Spheres

MAA UNDERGRADUATE POSTER SESSION, JOINT MATH MEETING 2014

Baltimore, MD

Jan. 2014

Teaching & Mentoring

TEACHING

Math Instructor

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

- Fall 2016, MATH19 Fundamentals of Calculus I (2 sections)
- Spring 2016, MATH17 Applications of Finite Math
- Fall 2015, MATH17 Applications of Finite Math

Burlington, VT

Aug. 2015 – Dec. 2016

Math Help Session Tutor

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

- Algebra, Precalculus, Finite Math, Calculus I, Calculus II

Burlington, VT

Aug. 2015 – May 2017

Course Grader

DEPARTMENT OF MATHEMATICS AND STATISTICS, UNIVERSITY OF VERMONT

- Fall 2016, CSYS300 Principles of Complex Systems

Burlington, VT

Aug. 2016 – Dec. 2016

Supplemental Instruction Leader

UConn ACADEMIC ACHIEVEMENT CENTER, UNIVERSITY OF CONNECTICUT

- Spring 2015, MATH1132Q Calculus II

Storrs, CT

Jan. 2015 – May 2015

Student-Athlete Tutor

COUNSELING PROGRAM OF INTERCOLLEGIATE ATHLETES, UNIVERSITY OF CONNECTICUT

- Introduction to Statistics I, Calculus I, Calculus II, Calculus III

Storrs, CT

Aug. 2012 – Jan. 2014

MENTORING

UConn Connects Master Coach

UConn CONNECTS MENTORING PROGRAM, UNIVERSITY OF CONNECTICUT

Storrs, CT

Jan. 2015 – May 2015

UConn Connects Facilitator

UConn CONNECTS MENTORING PROGRAM, UNIVERSITY OF CONNECTICUT

Storrs, CT

Aug. 2014 – Jan. 2015

Professional Service

Peer Reviewer

PLoS ONE, JOURNAL OF COMPLEX NETWORKS

Burlington, VT

Oct. 2016 – PRESENT

Co-Organizer

AM I A (ALL MATH IS APPLIED) SEMINAR, UNIVERSITY OF VERMONT

Burlington, VT

Aug. 2016 – PRESENT

Social Media Coordinator

REVOLUTION AGAINST RAPE, UNIVERSITY OF CONNECTICUT

Storrs, CT

Jan. 2014 – May 2015

Funding

RESEARCH ASSISTANT SUPPORT

Women Resilience Project

Boston, MA

SOURCE: GLOBAL RESILIENCE INSTITUTE AT NORTHEASTERN UNIVERSITY SEED GRANT

Sept. 2017 – PRESENT

PI: Brooke Foucault Welles, Network Science Institute, Northeastern University

Identifying Predictors of Suicide Using Social Media

Burlington, VT

SOURCE: UNIVERSITY OF VERMONT SEED GRANT

Jun. 2017 – Aug. 2017

PI: Chris Danforth, Vermont Complex Systems Center, University of Vermont

Next Generation Social Science

Los Angeles, CA

SOURCE: DARPA

Jun. 2017 – Aug. 2017

PI: Greg Ver Steeg, Information Sciences Institute, University of Southern California

Low Resource Languages for Emergent Incidents (LORELEI)

Los Angeles, CA

SOURCE: DARPA

Jun. 2016/2017 – Aug. 2016/2017

PI: Kevin Knight, Information Sciences Institute, University of Southern California

Honors & Awards

HONORS

2017 **Outstanding Masters Thesis Honorable Mention**, University of Vermont

Burlington, VT

2015 **Honorary Inductee**, Pi Mu Epsilon Mathematics Honor Society, University of Connecticut

Storrs, CT

SCHOLARSHIPS

2017 **Nam Sang Kil Scholarship in Mathematics**, Department of Mathematics, University of Vermont

Burlington, VT

2014 **Bernard Sippin '52 Scholarship**, Department of Mathematics, University of Connecticut

Storrs, CT

2014 **Orange Scholarship**, The Homer Fund, Home Depot

Storrs, CT

AWARDS

2017 **SYNS Travel Grant**, Society of Young Network Scientists, NetSci 2017

Indianapolis, IN

2015 **Outstanding Presentation Award**, Mathematical Association of America, Joint Math Meeting 2015

San Antonio, TX

2015 **MAA Travel Grant**, Mathematical Association of America, Joint Math Meeting 2015

San Antonio, TX

2014 **MAA Travel Grant**, Mathematical Association of America, Joint Math Meeting 2014

Baltimore, MD

Relevant Skills

Programming

Python (including NumPy, SciPy, Scikit-Learn, Gensim, NetworkX), MATLAB, R, Bash, PBS

Statistical

Regression and time series analysis, network analysis, classification, clustering, statistical model evaluation

Natural Language

Topic modeling, interpretable sentiment analysis, phrase extraction, word embedding methods